



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/756,874      | 01/10/2001  | Hiroshi Kanou        | Q62541              | 6216             |

7590

09/18/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3202

EXAMINER

NGO, HUYEN LE

ART UNIT PAPER NUMBER

2871

DATE MAILED: 09/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/756,874

Applicant(s)

KANOU ET AL.

Examiner

Julie-Huyen L. Ngo

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 16-32 and 49-54 is/are pending in the application.
- 4a) Of the above claim(s) 25-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 16-24 and 49-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

This application contains claims 25-32 drawn to an invention nonelected with traverse in Paper No. 6. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-10, 16-18, 20, 21, 23-24 and 49-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (US5691791).

Nakamura et al. teach (Figs. 1, 17, 27, 28G and 37A) a reflective liquid crystal display (LCD) apparatus comprising:

With respect to claims 1, 16 and 51-54,

- a transparent first substrate 3 (figs. 1/17);
- a transparent electrode 10 arranged on the first substrate;
- a second substrate 2 (Fig. 1, first example or Fig. 17, second example in the same invention);
- a switching element 121 (fig. 17) arranged on the second substrate 111;

Art Unit: 2871

- an insulation film/polymer resin layer 115 arranged on the switching element and having a convex/concave structure;
- a reflection electrode 118 arranged on the insulation film along the convex/concave structure and connected to the switching element;
- a liquid crystal layer sandwiched between the transparent electrode of the first substrate and the reflection electrode of the second substrate;

wherein

- the insulation film protects the switching element
- the convex/concave structure is formed by irregular arrangement of regions having different thickness values;
- the insulation film is a single-layered film made from a single material
- at least one portion of the insulation film is a single material that extends laterally along the second substrate under the entirety of at least two adjacent convex portion of the convex/concave structure;
- at least one of portion of insulating film has, along its length, a generally constant thickness extending at least from an uppermost surface of the second substrate to a lowermost surface of a concave portion of the convex/concave structure located between at least two adjacent convex portions as shown in Fig. 28G-H.

(Claims 2 and 18)

- the convex/concave structure has a continuous smooth shape

(Claims 3 and 17)

Art Unit: 2871

- the insulation film is a single-layered film made from a single material

(Claims 5 and 20)

- the convex/concave structure has a plurality of protrusions arranged irregularly

(Claims 6 and 22)

- the protrusions have an island shape or a line shape in a plan view

(Claims 7 and 21)

- the convex/concave structure has a plurality of indentations arranged irregularly

(Claim 8)

- the indentations have a line shape in a plan view (figure 5C)

(Claims 9 and 23)

- the convex/concave structure is formed by repetition of an irregular convex/concave shape based on one or more than one pixels

(Claims 10 and 24)

- the insulation film is made from an organic resin

(Claims 49 and 50)

Art Unit: 2871

- the insulation film 115 comprises a portion that extends to be arranged on top of the switching element 121 (fig.1)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. as applied to claims 1 and 16 above, and further in view of Ebihara et al. (US5990995A).

Ebihara et al. teach (Fig. 5D, col. 16 line 5-16) forming an insulation film 5 having a light absorption characteristic below the reflection electrode 8 for preventing the double reflection.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Nakamura et al. reflective LCD apparatus with an insulation film having a light absorption characteristic for preventing the double reflection below the reflection electrode 118.

***Response to Arguments***

Applicant's arguments with respect to claims 1 and 16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Julie-Huyen L. Ngo whose telephone number is (703) 305-3508. The Examiner can normally be reached on T-Friday.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Robert H. Kim can be reached at (703) 305-3492.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

September 6, 2003



*Julie-Huyen L. Ngo*  
**Patent Examiner**  
Art Unit 2871